

CHAPTER 1 INSPECTION OF BOILERS AND UNFIRED PRESSURE VESSELS

100 GENERAL PROVISIONS

- 100.1 The purpose of this title is to provide for the inspection, control, and regulation of steam boilers and unfired pressure vessels in the District of Columbia. All references in this title to the American Society of Mechanical Engineers Boiler and Pressure Vessel Code shall mean Section I to IX inclusively, of the 1959 edition of the Code and the interpretations and amendments in effect as of August 1, 1961.
- 100.2 For the purposes of this title, the installation inspection shall consist of a hydrostatic test before the boiler is covered and piping connections are made.
- 100.3 For the purposes of this title, after the installation has been completed an accumulation test shall be made on the boiler at which time piping and appurtenances shall be checked. When required by the inspector the boiler shall be boiled out with caustic soda to remove accumulated dirt or oil.
- 100.4 A written permit issued by the Permit Branch, Department of Consumer and Regulatory Affairs shall be required for each boiler or unfired pressure vessel installed, erected, or moved and reinstalled, or reerected in a new location in the District before any work in connection with that equipment is performed.
- 100.5 No person shall operate, or cause to be operated, any new boiler or unfired pressure vessel which has been installed or erected, or any used boiler or unfired pressure vessel which has been reinstalled or re-erected in the District until it has been inspected by the boiler inspector and a certificate of inspection has been issued and displayed in the boiler or engine room as required.
- 100.6 No person shall operate or cause to be operated any boiler or unfired pressure vessel requiring inspection under this title without a current certificate of inspection.

- 100.7 It shall be the duty of the owner or user of each boiler or unfired pressure vessel which is not covered by a current certificate of inspection to notify the Department in writing of the following information:
- (a) The location of each boiler or unfired pressure vessel not covered by a current certificate of inspection;
 - (b) The date of the last inspection, if any;
 - (c) Whether or not that equipment is insured and inspected by an insurance company; and
 - (d) The name of the company insuring it.
- 100.8 The license of any engineer licensed by the District of Columbia shall be subject to suspension or revocation if he shall operate, or cause to be operated any boiler or unfired pressure vessel under his or her supervision without a certificate of inspection or with a certificate which has expired.
- 100.9 No person shall operate or cause to be operated any boiler or unfired pressure vessel at a pressure in excess of the allowable pressure as stated on the certificate of inspection.
- 100.10 Boilers and unfired pressure vessels shall be equipped with all safety appliances and piping as prescribed in the A.S.M.E. Code or in this title. No person shall operate or cause a boiler or unfired pressure vessel to be operated unless equipped with the prescribed safety appliances and piping.
- 100.11 No person shall remove or tamper with any safety appliance or piping, except for the purpose of making repairs; Provided, that any adjustments to safety valves shall be made only by direction of an inspector.
- 100.12 When in the judgment of the boiler inspector, it is considered advisable to test the safety-valve capacity of a boiler, an accumulation test shall be made by shutting off all other steam-discharge outlets from the boiler, and operating the fuel-burning equipment to produce the maximum steaming capacity of the boiler.
- 100.13 The safety-valve equipment shall be sufficient to prevent the pressure from rising more than (a) 6 percent above the maximum allowable working pressures for power boilers, and (b) 5 pounds above the maximum allowable working pressures for heating boilers.
- 100.14 Provision shall be made for piping the safety valve discharge out of the boiler room during a test pursuant to §100.12.

100 GENERAL PROVISIONS (Continued)

- 100.15 Each owner or user of portable boilers or unfired pressure vessels shall furnish in writing to the Department, on or before the effective date of this title and yearly thereafter, the following information:
- (a) A list of his or her portable boilers and unfired pressure vessels;
 - (b) A list of the location of each portable boiler and unfired pressure vessel; and
 - (c) A statement indicating whether the portable boiler and unfired pressure vessel is insured and inspected by an insurance company.
- 100.16 No portable boiler or unfired pressure vessel shall be used until it has been inspected by an authorized boiler inspector and a certificate of inspection issued.

101 ANNUAL BOILER INSPECTION REQUIREMENTS

- 101.1 Each steam boiler including those used for hot-water supply, operating at a pressure in excess of fifteen (15) pounds per square inch, or operating at a pressure less than fifteen (15) pounds per square inch unless provided with an unassisted gravity return, shall be inspected annually by the boiler inspector, an assistant boiler inspector, or by an inspector of an insurance company.
- 101.2 Each boiler as described in §101.1 shall be deemed subject to inspection if it is connected to steam main and stack.
- 101.3 The annual inspection of steel steam boilers shall consist of an internal inspection while not under pressure. The annual inspection of cast iron steam boilers shall consist of an external inspection while under operating conditions.
- 101.4 The internal inspection shall consist of a thorough examination of all tubes, seams, rivets, drums, stay bolts, and other parts to insure that the boiler is in safe operating condition and able to carry the pressure allowed.
- 101.5 The external inspection to determine the general condition of the boiler and its appurtenances as well as the adequacy of safety valves, pressure gages, apparatus for determining water level, and other appliances shall be made under normal operating conditions at which time the steam pressure carried shall be observed and the operation of all valves, gages safety devices, or other appliances shall be checked to insure that they are in proper working order.

101 ANNUAL BOILER INSPECTION REQUIREMENTS (Continued)

- 101.6 A hydrostatic test shall be required when, in the judgment of the inspector, it is considered necessary in the interest of safety.
- 101.7 Steam boilers and their appurtenances shall be exempt from annual inspection if any of the following conditions exist:
- (a) When the equipment is used exclusively for heating purposes and provided with an unassisted gravity return;
 - (b) When the equipment is located on boats, vessels, or other floating equipment;
 - (c) When the equipment is owned or operated by the federal government; or
 - (d) When the equipment is located on locomotives or other vehicles operated under the regulations of a federal agency.

102 PREPARATION OF BOILER FOR INSPECTION

- 102.1 A steam boiler shall be prepared for internal inspection by the owner or user on a date specified by the inspector.
- 102.2 Insofar as practicable the internal inspection shall be made within fifteen (15) days prior to the expiration of the certificate of inspection.
- 102.3 In no case shall the internal inspection be deferred more than thirty (30) days after date of expiration of the current certificate of inspection. A steam boiler may be ordered discontinued from service until the inspection is made.
- 102.4 Preparation for internal inspection shall be made in the following manner:
- (a) Water shall be drawn off and the boiler thoroughly washed out;
 - (b) All manhole and handhole plates, washout plugs and the water column connection plugs shall be removed and the furnace and combustion chambers thoroughly cooled and cleaned;

102 PREPARATION OF BOILER INSPECTION (Continued)

102.4 (Continued)

- (c) All grates or stoker dead plates of internally-fired boilers shall be removed; and
- (d) All leaks of steam or hot water into the boiler shall be stopped. The inspector may also require the removal of brickwork and of insulation covering the seams of shell, drums or domes, sufficient to determine the size and pitch or rivets, their condition, and any other information as may be necessary to definitely determine the condition of the boiler and its fitness for safe operation.

102.5 A steam boiler shall be prepared for hydrostatic test by the owner or user, when required by the inspector, by filling the boiler with water to the stop valve and blanking off the connections of the boiler to other boilers when that boiler is connected to other boilers that are under steam pressure. Arrangements shall be made with the inspector for the protection of the safety valve and under no circumstances shall the safety valve spring be screwed down for making hydrostatic test.

103 UNFIRED PRESSURE VESSELS REQUIRING ANNUAL INSPECTION

103.1 Each unfired pressure vessel operating at a pressure in excess of sixty (60) pounds per square inch and having a capacity in excess of fifteen (15) gallons shall be inspected annually by the boiler inspector, an assistant boiler inspector, or by an insurance company inspector.

103.2 Any unfired pressure vessel as described in §103.1 shall be deemed subject to inspection if it is connected to a source of supply.

103.3 Unfired pressure vessels and their appurtenances are exempt from annual inspection if any of the following conditions exist:

- (a) When the equipment is located on boats, vessels, or other floating equipment;
- (b) When the equipment is owned or operated by the federal government;
- (c) When the equipment is located on locomotives, street cars, buses or other vehicles, operated under the regulations of any federal agency or the Public Service Commission of the District.

103 UNFIRED PRESSURE VESSELS REQUIRING ANNUAL INSPECTION (Cont'd)

103.4 Air tanks used solely for the operation of railroad signals and switches shall be exempt from annual inspection when inspected annually by a competent inspector employed by the railroad company and stamped with the date of the inspection.

103.5 Hot water storage tanks when equipped with the safety devices required by the A.S.M.E. Code shall be exempt from annual inspection, until such time as further regulations have been published by the Mayor; Provided, that when, in the judgment of the boiler inspector, a tank or its appurtenances is considered to be in an unsafe condition, an inspection may be ordered and any recommendations resulting from that inspection shall be carried out in accordance with §§107 and 108.

103.6 Vessels and tanks used in the operation of refrigeration or air conditioning equipment and subject to inspection by the provisions of the mechanical refrigeration code of the plumbing inspection division shall be exempt from annual inspection, until such time as further regulations have been published by the Mayor.

103.7 The annual inspection of unfired pressure vessels shall consist of an external inspection including safety devices, and other appurtenances. When a vessel is provided with manholes an internal inspection shall also be made.

103.8 A hydrostatic test may be required when, in the judgment of the inspector, it is considered necessary in the interest of safety. This test shall consist of applying a pressure of one and one-half times the allowable pressure, the vessel to be prepared for inspection by the owner or user as directed by the inspector.

104 ANNUAL INSPECTION BY INSURANCE COMPANIES

104.1 Any steam boiler or unfired pressure vessel which is insured and inspected at least once annually by an insurance company licensed to operate in the District shall be exempt from inspection by the Department if the requirements of this section are satisfied.

104.2 The insurance company shall comply with all provisions of the A.S.M.E. boiler inspection code and of this title. The local inspection service shall be approved by the Mayor.

104.3 Insurance company inspectors shall hold certificates of competency issued by the District pursuant to §105.

104 ANNUAL INSPECTION BY INSURANCE COMPANIES (Continued)

- 104.4 Reports of inspections and other data relating to an insured boiler or unfired pressure vessel as may be required shall be filed with the Department within thirty (30) days after the inspection on the standard forms and in the manner as required; Provided, that the internal-inspection report shall be filed in time to prevent the certificate of inspection from becoming more than 30 days overdue.
- 104.5 Each annual internal-inspection report shall state the nature of all changes or repairs ordered or recommended. If the certificate of inspection is withheld because changes or repairs have been ordered or recommended, an additional report shall be filed with thirty (30) days stating whether the changes or repairs have been completed.
- 104.6 Each reports shall be typewritten and signed in ink, shall state definitely whether or not the certificate of inspection shall be issued, and the pressure allowed.
- 104.7 The insurance company shall immediately report to the Department the name of the owner or user and the location of every steam boiler and unfired pressure vessel on which insurance is refused, cancelled, or discontinued and the reason therefor and also for each new object upon which the coverage is taken.
- 104.8 The fee of one dollar (\$1) required to be paid by the owner or user for the issuance of a certificate of inspection shall be forwarded with the inspection report to the Department with a check made payable to the D.C. Treasurer.
- 104.9 Each insurance company report shall state the names of the licensed engineers working on all watches. The report shall state the grade of license held, and if there is none, the reports shall so state.
- 104.10 The inspector shall inform the owner or operator that licensed engineers are required by law and that the licenses must be posted under glass in boiler or engine room.

105 CERTIFICATES OR COMPETENCY FOR INSURANCE COMPANY INSPECTORS

- 105.1 Inspectors of insurance companies authorized by the Mayor to inspect and insure steam boilers and unfired pressure vessels shall hold a Certificate of Competency issued by the Board of Examiners for Steam Engineers after examination by the Board has shown that the inspector is qualified to perform the required duties.

105 **CERTIFICATES OF COMPETENCY (Continued)**

- 105.2 The Certificate of Competency shall be for a period of two (2) years and may be renewed without further examination for an additional two (2) year period upon request. The fee for each period shall be ten dollars (\$10).
- 105.3 Application for examination of insurance company inspectors for Certificates of Competency shall be made by the insurance company in writing to the Chief, Smoke and Boiler Section.
- 105.4 The application shall state the name, age, qualifications, experience, and local address of each of the inspectors proposed to be employed by the company in the inspection of steam boilers and unfired pressure vessels in the District.
- 105.5 The Chief, Smoke and Boiler Section, shall arrange for the examination with the Board of Examiners of Steam Engineers and shall notify the candidates of the time and place of the examination.
- 105.6 The examination shall be written and shall be in the form and on the date prescribed by the National Board of Boiler and Pressure Vessel Inspectors. The fee for the examination shall be ten dollars (\$10).
- 105.7 A candidate for examination shall be not less than twenty-five (25) years of age and shall have had three (3) years of satisfactory practical experience in boiler making, boiler installation and inspection, or boiler shop practice, or operation and maintenance of steam boilers. Technical education shall, in proportion to its value, be given credit as equivalent to experience and not to exceed one (1) year. Each candidate shall be regularly employed by an insurance company or by the District.
- 105.8 A certificate issued by the National Board of Boiler and Pressure Vessel Inspectors may be accepted upon proper substantiation and a Certificate of Competency issued therefor.
- 105.9 A candidate who fails to pass an examination shall not be granted a re-examination by the Board of Examiners until a period of ninety (90) days has elapsed.
- 105.10 A Certificate of Competency may be suspended or revoked by the Board of Examiners for cause after ten (10) days from date of written notice to the insurance company and the inspector. The inspector shall be entitled to a hearing by the Board when requested in writing before the expiration of the ten (10) day period and before the revocation is made effective.

105 CERTIFICATES OF COMPETENCY (Continued)

- 105.11 Whenever an inspector holding a Certificate of Competency from the District shall leave the employ of an insurance company, the company shall give prompt written notice of the fact and the reasons for the inspector leaving, to the Chief, Smoke and Boiler Section, who shall cause the inspector's Certificate of Competency to be withdrawn.

106 CERTIFICATES OF INSPECTION

- 106.1 No person shall use or cause to be used any steam boiler or unfired pressure vessel until a certificate of inspection has been issued and posted as required in this title.
- 106.2 The certificate of inspection shall not be issued until it is determined that the boiler or unfired pressure vessel is in condition and in conformity with the boiler code of the American Society of Mechanical Engineers, and this title, the Rules and Regulations Governing the Installation of Fuel Burning Equipment, and the Rules and Regulations Governing the Operation of Engines and Steam Boilers and the Machinery in and for the District of Columbia.
- 106.3 In the case of boilers which can be internally inspected, certificates shall not be issued until after that inspection has been made.
- 106.4 On all installations for which a permit has been issued as provided in §201, the contractor or person making the installation shall be responsible for notifying the Chief, Smoke and Boiler Section, in sufficient time so that the necessary inspections can be made.
- 106.5 The contractor or person making the installation shall be responsible that no boiler or unfired pressure vessel shall be operated until final inspection has been made and permission given to operate the equipment. A licensed engineer shall be in charge of the boiler if it is operated prior to being turned over to the owner.
- 106.6 A separate certificate of inspection shall be issued for each object inspected.
- 106.7 Each certificate shall be enclosed in a glass covered frame to be supplied by the owner and shall be prominently displayed in the boiler or engine room near the equipment to which it pertains.
- 106.8 Certificates for portable equipment shall be kept with the equipment at all times.

107 NOTICE TO MAKE REPAIRS OR ALTERATIONS

- 107.1 If upon inspection it is found that repairs, alterations, or cleaning, are necessary to insure the safe operation of a steam boiler or unfired pressure vessel, and its conformity to the A.S.M.E. Code and this title, a written notice stating the work required to be done and time of completion shall be sent to the owner or user.
- 107.2 Any repairs, alterations, or cleaning, shall be made as directed. Upon completion of the work ordered, the Chief, Smoke and Boiler Section, shall be notified.
- 107.3 If the work has not been completed within the time allowed, operation of the equipment may be ordered discontinued.
- 107.4 The provisions of §107.3 shall apply also to repairs or changes recommended by an insurance company inspector provided that a written notice shall have been sent to the owner or user.

108 CONDEMNATION OF DEFECTIVE OR UNSAFE EQUIPMENT

- 108.1 Whenever the boiler inspector finds that a boiler or unfired pressure vessel, or its necessary appurtenances, is in such a defective or unsafe condition that life or property is endangered, he or she shall immediately order its further use and operation discontinued. If, in his or her opinion, it cannot be repaired and made safe, he or she shall condemn it.
- 108.2 The boiler inspector shall revoke or suspend the certificate of inspection pertaining to any boiler or unfired pressure vessel discontinued or condemned pursuant to §108.1, making written report of the action taken, with the reasons therefor to the Chief, Smoke and Boiler Section. The report shall contain a detailed description of the unsafe condition of the boiler or unfired pressure vessel.
- 108.3 A written notice of the revocation or suspension of certificate of inspection and the reasons therefor shall be served on the owner or user. In the case of an insured boiler or unfired pressure vessel where the certificate of inspection was issued on the certification of an insurance company, the notice shall be sent to the company.
- 108.4 No person shall again operate or cause to be operated any boiler or unfired pressure vessel, which has been condemned by the boiler inspector, nor shall any person operate or cause to be operated, any boiler or unfired pressure vessel, the further use and operation of which has been ordered discontinued by the boiler inspector, or where the certificate of inspection has been suspended, until the defective or unsafe condition which was the reason for that action has been corrected and a new certificate of inspection issued.

108 CONDEMNATION OF DEFECTIVE OR UNSAFE EQUIPMENT (Continued)

108.5 A boiler or unfired pressure vessel which has been condemned by an inspector shall be distinctly stamped using a five-sixteenth inch (5/16") die, with the facsimile D.C. XXX D.C., and located as specified in paragraph P-333 of rule 14-20 of the A.S.M.E. Boiler Code. Numbers on condemned boilers shall not be reassigned.

109 NUMBERING BOILERS AND UNFIRED PRESSURE VESSELS

109.1 Every boiler and unfired pressure vessel shall be given a District of Columbia number which shall be distinctly stamped using a five-sixteenth inch (5/16") die, this number to be located as specified in paragraph P-333 of rule 14-20 of the Boiler Code and with the insignia D.C. at the beginning and end of the number.

109.2 Numbers assigned to cast-iron boilers shall be of metal not less than one inch (1") in height and shall be securely attached to a metal plate which in turn shall be securely attached to the front of the boiler.

109.3 Miniature boilers shall have sufficient space provided so that the District of Columbia numbers can be stamped on the shell and be clearly visible when the insulating jacket is in place.

